1-1-1922

Pace Student, vol.7 no .3, February, 1922

Pace & Pace

The PACE STUDENT

Vol. VII New York, February, 1922 No. 3

Allocation of Costs to Specific Products in the Petroleum Refining Industry

By Thomas A. Thibodeau, Pace Institute, Washington, D. C.

OIL—by which we mean crude mineral oil—comes from the dark recesses of the earth to light our way, to move us about, to transport our possessions, to serve us in a hundred ways. With it often comes wealth—sometimes unexpectedly and without work; oftener, as the result of scientific study, patient effort, and good organization. The magic of petroleum will furnish the text for more than one wonder tale when the thousand and one stories of our modern civilization are written.

As accountants, we are chiefly interested with the technical aspects of the subject—the organization of the petroleum refining industry, the determination of the costs of production, the marketing of the products. These technical aspects are being studied by Pace students everywhere—by the perusal of texts, by attendance upon class lectures, by field work which includes the inspection of all the processes of a modern refinery, and often by the observation that accompanies employment by an oil company.

As evidence of productive study of this nature and as an aid to others, we are pleased—yes, proud—to present herewith a thesis by Thomas A. Thibodeau, Pace Institute, Washington, D. C., entitled, "Allocation of Costs to Specific Products in the Petroleum Refining Industry."

It should be noted that the method of allocating total cost, as explained by Mr. Thibodeau, is applicable, not only to the petroleum refining industry, but to many other industries in which a number of products are obtained from a basic material—such industries, for example, as the coal-tar industry and the meat-packing industry. The principles, therefore, will be of general interest to accountants and students of business. The thesis follows:

Purpose of Thesis

The purpose of this thesis is to present a method of allocating costs to the various products obtained from the refining of crude petroleum. Authorship of the method to be presented is not claimed by the writer, but the procedure is believed to be of a nature so interesting as to form a fitting subject for a thesis by the student of accounting.

The United States as a Producer and Refiner of Petroleum

The United States has long been a world leader in the production and refining of crude petroleum. Since 1857, with the exception of two years, it has ranked first each year among the countries of the world as a petroleum producer.[1] For the period since 1857 to the end of 1918, the total world production is given as 7,504,107,138 barrels. Of this amount, the United States is credited with 4,608,571,719 barrels, or 61.41 per cent. of the total, valued at $4,525,867,138. In 1918, the United States produced 355,927,716 barrels of crude petroleum, which amounted to 69.15 per cent. of the world's total, and carried a value of $703,943,961. During this same year, the output of the country's refineries amounted to 15,351,556,802 gallons, divided among the products as

[1] Federal Trade Commission Report on Pacific Coast Petroleum Industry, Part 1, p. 33.

LEADING ARTICLES FOR FEBRUARY

Allocation of Costs to Specific Products in the Petroleum Refining Industry . . . Title-page

The Question and Answer Department . . . Page 38

Editorial . . . Page 40

The Referee—the Judge's Aide-de-camp . . . Page 42

New York State C.P.A. Requirements . . . Page 44

Analysis of Financial Statements for Credit Purposes . . . Page 46

follows: gasoline, 23.2 per cent.; kerosene 11.9 per cent.; fuel- and gas-oil, 47.7 per cent.; lubricating oils, 5.5 per cent.; wax, 3.3 per cent.; miscellaneous, 8.4 per cent.[2] Thus it will be seen that both as a producer and as a refiner the country's business is enormous.

Crude Producing Territories

Crude petroleum is obtained in various sections of the United States, the more important fields being located in the states of Pennsylvania, West Virginia, Kentucky, Chio, Indiana, Illinois, Kansas, Oklahoma, Texas, Louisiana, Wyoming, and California. Refineries for the handling of the product are many in number, some being located in the vicinity of the fields, and others many miles distant from the source of production, but close to large consuming centers.

Differences in Crude

The crudes produced in different fields and pools sometimes differ very widely as to elements contained therein, and, consequently, as to value. The Pennsylvania grade of crude petroleum is recognized as the best in the country, and therefore commands the highest price. Mid-Continent crude, namely, that produced in Kansas and Oklahoma, is of a lower grade, while that obtained in California is of a still lower grade, some being so low in gravity as to be fit only for fuel-oil purposes, without even going through the processes of refining.

Products from Crude Petroleum

The products obtained from crude petroleum and the quantity of each depend upon the grade of crude refined. In some fields, the crude obtained has a paraffine base, while in others, the crude has an asphalt base. Crude oil on an asphalt base yields asphalt and tar as a final product, no wax being obtained from this crude; that on a paraffine base yields wax, the tar and asphalt elements being absent. The chief products from the refining of crude petroleum include gasoline, kerosene, fuel-oil, gas-oil, lubricating oils, wax, and asphalt. As stated above, the quantity obtained of each depends upon the grade of crude refined; to a certain extent, also, the quantity depends upon the method of refining. The grade of the crude depends much upon the specific gravity—the lighter the crude, the higher the percentage of the more volatile elements, such as gasoline, is secured; the heavier the crude, the smaller will be the percentage of gasoline obtained, and the greater the percentage of the heavier products, such as fuel-oil. Then some crudes are very rich in lubricating elements.

Average Unit Costs for All Products

The matter of determining the average per-gallon cost for refining all products from a given quantity of crude is not difficult. To facilitate the discussion of costs, let us suppose that a moderate-sized refinery, operating one plant with a capacity of one thousand five hundred barrels per day, showed by its books operations for an accounting period as follows:

CRUDE RUN: 500,000 barrels (of 42 gals.), or 21,000,000 gallons.

YIELD:			
Gasoline	3,150,000	gallons	15%
Kerosene	4,200,000	"	20%
Fuel-oil	8,400,000	"	40%
Lubricating oils	2,100,000	"	10%
Other products	2,520,000	"	12%
	20,370,000	"	
Loss	630,000	"	3%
Total	21,000,000	"	100%

COSTS:		Amount	Per Gallon Yield
Crude (500,000 bbls. at $1.50)		$750,000	3.682 cents
Manufacturing:			
Labor	$25,000		
Repairs	11,000		
Works' expense	7,500		
Water	2,000		
Steam	17,000		
Fuel	15,000		
Acid, etc.	30,000		
		107,500	.527 "
Depreciation		15,500	.076 "
Administrative and General:			
Office salaries	$25,000		
Office expense	6,000		
Telegraph and telephone	2,500		
Legal	1,000		
Insurance	12,500		
Taxes	6,000		
General	6,500	59,500	.292 "
		$932,500	4.577 "
Selling:			
Office expense	$3,500		
Salesmen's expense	12,000		
Commissions	2,500		
Advertising	2,500	20,500	.101 "
Total		$953,000	4.678 "

The above figures show that during the accounting period 21,000,000 gallons of crude petroleum were refined, yielding 20,370,000 gallons of refined products, at a cost for raw material, manufacturing, administrative and general, and depreciation, of $932,500, or 4.577 cents per gallon. Selling expenses for the period amounted to 0.101 cents per gallon of products refined, bringing the cost of sales up to 4.678 cents per gallon. This is the average per-gallon cost for all products, and the procedure is quite simple. The question of the average cost per gallon for each separate product, however, presents a problem not easily solved.

Allocation of Costs to Specific Products

In the matter of allocating costs to the various products obtained from the same raw material, several plans of procedure are open to consideration. Unfortunately, in the case of oil refining, no method can be said to be very satisfactory; all methods are open to serious criticism, and it remains to accept that method which appears the

[2] U. S. Geological Survey, Petroleum in 1918, pp. 973, 1126, 1127, 1143, 1145.

least objectionable. Brief reference to different methods of procedure and their failings are made in the following paragraphs.

Average Specific Cost Methods

Under this method, the total costs are applied against the total production and the average cost per unit for all products found. Thus, in the compilation above set forth, the per-gallon cost of all products obtained from the twenty-one million gallons of crude refined during the accounting period was shown to be 4.577 cents, or 4.678 cents with selling expense added. An idea of the relation between the products, as reflected in the market values, may be gained from the following average selling prices per gallon for the accounting period:

Gasoline	10 cents
Kerosene	5 "
Fuel-oil	3 "
Lubricating oils	9 "
Other products	12 "

It is clearly seen that to follow this method of showing costs would result in showing a very low cost, and, consequently, large profit for products of high market value, such as gasoline, lubricating oils, etc.; while for products of low market value, such as kerosene and fuel-oil, which constitute 60 per cent. of the yield, the cost is, in one case, only slightly under the market value, and in the other, it is in excess of the market value. Fuel-oil, it will be noted, constitutes 40 per cent. of the total production; it is composed of the less volatile, heavy residuum left over after the lighter products have been taken off by distillation; yet, it is a useful product and in great demand, though commanding a lower price than the lighter products. To apply to this product a cost which, in effect, would show a loss, while at the same time showing immense profits on other products, seems highly unsatisfactory and undesirable. Why should the raw material—the crude petroleum elements—in this product be regarded as of the same value as that in the products commanding the higher market price? It should not.

The By-product Method

Under this method of treating costs, one product is regarded as the main product and all others as by-products. All costs are treated as cost of producing the main product, but the total cost is decreased by the amount of net returns from the sales of the by-products. In the case of petroleum refining, no single product could well be taken as the main product, for several products will stand out conspicuously, either from the view-point of yield or return from sales. For example, the yield and the returns from sales for an accounting period might be as follows:

Gasoline	3,150,000	gals. at	10c	$315,000
Kerosene	4,200,000	" "	5c	210,000
Fuel-oil	8,400,000	" "	3c	252,000
Lubricating oils	2,100,000	" "	9c	189,000
Other products	2,520,000	" "	12c	302,400

It is obvious from the above figures that most, if not all, of the products listed are too important, both in point of volume and value, to be classed as by-products. This being true, it is clear that the by-product method can not be used.

The Sales-value Method of Cost Allocation

One not familiar with petroleum refining might ask: Why not charge each product with the raw material going into it, the labor and other direct costs incident to its manufacture, and a fair proportion of the overhead, estimated on a suitable basis? Unfortunately, that procedure does not work out in petroleum refining. To do more than merely refer briefly to a few of the processes of petroleum refining would be beyond the scope of this thesis, but a few words on the subject might serve to emphasize the difficulty of the problem of cost allocation in the business of petroleum refining.

The first process in the refining of crude petroleum is known as the first distillation. The crude petroleum is piped into a large boiler called a "distillation still." By application of intense heat, the oil is caused to boil and vaporize. The vapors are then condensed, and the resulting liquids form distillates which are conveyed to separate tanks. These distillates include crude naphtha, which after further treatment will yield gasoline, kerosene distillate, fuel-oil distillate, lubricating oil distillate, wax distillate, etc.

The first process is followed by other processes. To secure gasoline, the crude naphtha must be cleansed of impurities by treatment in agitators; this is followed by a finishing process. The kerosene distillate receives similar treatment; wax distillate has to go through the processes of pressing and sweating; and lubricating oil distillate must be treated and filtered.

Re-run of Certain Products

In the course of these different processes, certain products are obtained which have to be re-run—that is, put again through prior processes. When this is done, the re-run product of necessity becomes mixed either with original crude or with other distillate. Such operations not only confuse material costs, but manufacturing costs as well. The fact is, that allocation of costs to the products from the first distillation in itself presents a problem difficult of solution, unless one chooses to regard the material costs of the products of equal value; and even then, operating costs and overhead have to be dealt with. Fuel is consumed to keep the fires burning under the stills; water and power are used to operate the condensers; labor costs are accumulating. At the same time, securing the products from the first distillation is a continuous process—first, the crude naphtha leaves the still, then the kerosene distillate, fuel-oil distillate, lubricating oil distillate, and wax distillate, in the order named. It might be claimed that crude naphtha, coming off first, should be charged with a smaller operating cost per gallon than is charged a product coming off later. But if this is true, is there good reason why crude naphtha, which yields gasoline commanding a high market price, should not be charged a higher material cost than fuel-oil, commanding a lower market price? These are some of the difficult questions which present themselves, and which make the problem of cost distribution, except on the sales-value basis, seem an unsolvable one.

Allocation on the Basis of Percentage Yield

By the sales-value method, costs are allocated to the different products on the basis of percentage of yield in conjunction with market values as indicated by sales. For instance, let the yield and sales prices per gallon for an accounting period be as follows:

	Yield Per Cent	Sales Price Per Gal.
Gasoline	15	10 cents
Kerosene	20	5 "
Fuel-oil	40	3 "
Lubricating oils	10	9 "
Other products	12	12 "

The total of all products amounted to 20,370,000 gallons, and the total expense amounted to $953,000, or an average of 4.678 cents per gallon for all products combined. Then the cost applicable to each product under the sales-value method would be ascertained, as follows:

Products	Yield Per cents	Average refinery sales price	Burden on each product Col 1 x Col. 2	Per cents	Proportion of cost to apply ag'nst yield per cent.	Cost of each product
Gasoline	15	10c	150	24.83	1.161547	7.7436c
Kerosene	20	5c	100	16.56	.774676	3.8733c
Fuel-oil	40	3c	120	19.87	.929518	2.3237c
Lubricating oils	10	9c	90	14.90	.697022	6.9702c
Other products	12	12c	144	23.84	1.115235	9.2936c
	100		604	100.00	4.678	

Column six of the above tabulation shows the cost per gallon applicable to each product on the basis of yield per cent., and the average market value for the same accounting period. The procedure consists of multiplying the figures in Column one by the corresponding figures in Column two to get the figures in Column three. Column three is then brought to a percentage basis as indicated in Column four. In Column five, the average per-gallon cost of all products, 4.678 cents, is split up and allocated to each product as per the per cents shown in Column four; and the cost applicable to each product, as shown in Column six, is then found by dividing the figures in Column five by the corresponding figures in Column one.

Allocating Costs to the Various Products

It is obvious that the plan of allocating costs to the various products, as illustrated in the foregoing tabulation, presupposes a definite market value for each of the products. In other words, before costs are known, sales prices must be known. This seems contrary to one of the principal objects of cost finding, since the desire for such information is to a large extent for the purpose of establishing a firm basis upon which the management may fix selling prices. But, as before pointed out, no entirely satisfactory method has been found for allocating refining costs. The cost of all products refined from a quantity of crude is ascertainable without a great deal of difficulty, and it remains for the management to make its sales prices sufficiently high on its high-value products, and not too low on its low-value products, to yield a net return per gallon in excess of the per-gallon cost. And in this connection, it might be said that the matter of costs of each product really matters little, so long as the average return per gallon for all products is enough greater than the average cost to yield a reasonable profit. However, under certain circumstances, cost figures for each product might be regarded as important, as, for instance, during the late war when prices were soaring, and the costs of productions of certain commodities became the subject of special inquiry in order to determine reasonableness of profits.

Cost of No Product to Exceed Selling Price

Under the method above outlined, so long as a net profit is realized upon the total sales, the cost of no product will exceed the selling price; if a net loss results, all products will show a loss. A gain on one product and a loss on another can not occur. And, as a matter of fact, is there any reason why this should not be the case? Raw material is responsible for the greater part of the cost. It is purchased at a certain price per barrel, according to its grade, and out of the barrel of crude the refiner, by experience, knows he will get a certain amount of gasoline, a certain amount of fuel-oil, of kerosene, etc., the different elements separated by distillation going to make up products of different market values. It is surely proper that the particular elements extracted from the crude to make gasoline should be charged to gasoline at a much higher raw-material cost than should the elements going to make up fuel-oil, which commands a lower market value. And as to operating costs and overhead, there appears to be no good reason why these should not be allocated to the different products in the same proportions as the raw material, for any excess of operating or overhead costs entailed in the refining of one product over the refining of another product can be regarded as offset by a corresponding effect upon raw-material value.

Classification of Per Gallon Costs

In the early part of this thesis, costs for a moderate-sized refinery are classified under the titles Crude Cost, Operating, Depreciation, Administrative and General, and Selling. The average net cost per gallon, with selling expense included, for all products is shown as 4.678 cents, which, in the last tabulation, has been allocated to the different products. To find the proportion of the per-gallon cost of each product chargeable to crude, operating, depreciation, administrative and general, and selling expense, it is necessary first to find what percentage each classification bears to the total. By applying these percentages to the per-gallon cost of each product, the desired results are secured. The following tabulation shows the cost of each product so distributed.

	Per Cent. of total	Cost per Gallon				
		Gasoline	Kero-sene	Fuel	Lubri-cants	All Other
Crude	78.70c	6.09c	3.05c	1.83c	5.49c	7.31c
Operating	11.28	.87	.44	.26	.79	1.05
Depreciation	6.24	.48	.24	.14	.43	.58
Admin. and General	2.15	.17	.08	.05	.15	.20
Selling	1.63	.13	.06	.04	.11	.15
Total	100.00c	7.74c	3.87c	2.32c	6.97c	9.29c

Before closing this thesis, it might be well to repeat that the method of cost allocation outlined in these paragraphs is not in all respects a satisfactory one. However, it is believed to be the most satisfactory method available where circumstances require that an allocation of costs be made. Possibly a better method could be devised by the installation of special equipment, the keeping of elaborate records, and the like, but only at such an increase in operating and administrative costs as to be prohibitive, it being as true in petroleum refining as in other businesses, that success is measured by economy of management and operation.

Biographical Sketches of Pace Students Who Have Made Good

William A. Doering, Auditor, Boston Consolidated Gas Company

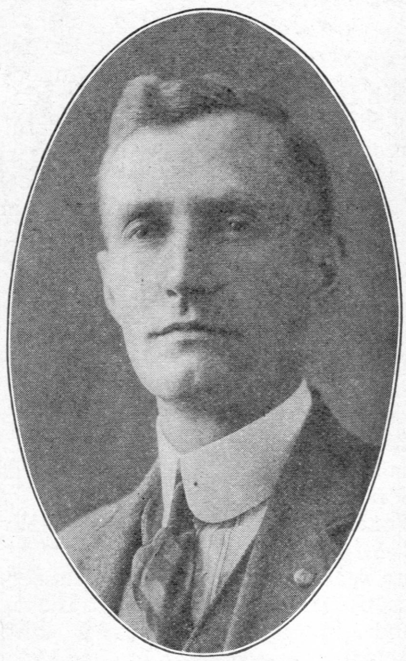
WILLIAM A. DOERING, the modest subject of this sketch, is auditor of the Boston Consolidated Gas Company, Boston, Mass. His technical training in accounting was received at Pace Institute, Boston.

Mr. Doering came to this country from Europe as a boy, in 1893, and one can well imagine the thrill of satisfaction with which he looks back now at the road that he has traveled since that time. The way has not always been easy, but the old-fashioned virtues of unquestioned honesty, willingness, and stick-to-it-iveness, coupled with a natural liking for his work, have already brought Mr. Doering substantial vocational rewards. One distinctive feature of his climb to his present responsible position in the business world has been his willingness to keep on the job early and late, and to perform any task in connection with his work which would give him a better fundamental grasp of the procedures involved. Dirt, grime, and overalls meant nothing to him. As Mr. Doering says:

"My motto has always been to do anything, whether asked or not. Even as a clerk, it became necessary to don overalls. For example, at the district office, when my work as clerk was completed, and meters were to be painted, I would put on overalls and get to work, thereby learning all about meters in process of repair. I often performed various kinds of manual labor in the shop, and gained from this the knowledge which to-day is indispensable in my present position."

Mr. Doering received his professional training in Accountancy at Pace Institute, Boston. Shortly after completing his studies, he was appointed assistant auditor of several affiliated gas companies in Boston, and assumed the duties of his present responsible position in August, 1921.

Mr. Doering was born in Germany, on August 21, 1886. At the age of seven, he came to Boston with his parents and subsequently attended the public schools of that city. He was graduated from grammar school in 1901, and, deciding upon a business career, he soon secured employment as errand boy with William Filene Sons' Company, the great department store of Boston. After remaining



two months in their employ, he entered the office of a Boston real-estate broker, as messenger, leaving in June, 1903, to accept a position as clerk in the offices of the Jamaica Plain Gas Light Company. From that time until now, Mr. Doering has been in public utility work. In July, 1903, the Jamaica Plain Gas Light Company was consolidated with the Boston Consolidated Gas Company, and Mr. Doering remained as a clerk in the district office of this company until 1906. At that time, he was transferred to the auditing department where he remained until 1914. In 1915, he was temporarily assigned by his employers to the New England Manufacturing Company; but in July, 1918, he returned to the Boston Consolidated Gas Company as chief clerk of the auditing department.

With all of his experience in the accounting departments of public utility companies, it was but natural that Mr. Doering should decide to seek his future in this work. He realized, though, that without more training his vocational progress would be unduly retarded; so, in the spring of 1919, he enrolled at Pace Institute, Boston, and soon became known as an enthusiastic and able student.

In September, 1920, Mr. Doering was appointed assistant auditor of the Boston Consolidated Gas Company, the Newton and Watertown Gas Light Company, the East Boston Gas Company, and the Citizens' Gas Light Company. At the present time, he is auditor of the Boston Consolidated Gas Company, in charge of all accounts and collections of four affiliated companies, and with four hundred employees under his direct supervision.

Mr. Doering is a member of the American Gas Association, the Management Committee of the accounting section of this Association, and also finds time, in spite of his arduous business duties, to serve as the president of the Pace Club of Boston.

Mr. Doering is always ready to give credit to Pace Institute, to members of his family, and to his associates, for the business success which has come to him. However, as one analyzes Mr. Doering's career, he finds running through it so much indomitable effort and singleness of purpose that he realizes that Mr. Doering himself must not be overlooked when congratulations on a merited success are being extended.

W. V. HOAG, a graduate of the Extension Division of Pace Institute, New York, has joined the staff of Haskins & Sells, 554 Pittock Block, Portland, Ore.

The Question and Answer Department

This Department does not publish answers to all of the questions received, but only to those which are deemed to be of general interest to readers of The Pace Student. A communication, in order to receive attention, must contain the name and the address of the person asking the question.

I WOULD like to have you advise regarding the following question: Money is borrowed from the bank to pay for the purchase of Liberty Loan Bonds, the bank holding the bonds as collateral. The interest paid on the borrowed money is charged to Operating Account, or miscellaneous expense—"Interest on Floating Debt." The question has arisen as to whether or not it is proper to credit the coupons clipped from the bonds to this operating account (Interest) or to "Earnings on Investment."

It would seem to me that the bonds were not purchased as an investment, properly speaking, and the fact that it was necessary to borrow money to pay for the bonds would seem to make it more reasonable that the income derived from the bonds should offset the interest necessary to carry the loan.

Answer:

Your question is directly answered in the following comments which have recently come to our attention, and which have been recently made by an authority on tax matters:

"*Income from obligations of the United States.* All interest on obligations of the United States is exempt from the normal tax. Interest on obligations issued after September 1, 1917, is exempt from the surtax and excess-profits taxes only to the extent provided for in the Act authorizing their issue. Interest on obligations issued prior to September 1, 1917, is exempt from the income and excess-profits taxes.

"The profit realized from the sale of Liberty Bonds at a price above their cost is taxable, but the interest received on Liberty Bonds is either entirely or partially free from tax. For this reason, separate accounts should be kept for 'interest' and for 'profits.' Moreover, for the reason that various exemptions are allowed on the interest from the various issues of Liberty Bonds, a separate account should be kept for the interest received on each issue.

"All interest paid or accrued on indebtedness, except indebtedness incurred or continued to purchase or carry the First 3½'s (and other securities, the income from which is wholly exempt from taxation), may be deducted as an expense. Interest paid on indebtedness incurred to carry the Victory 4¾'s notes is deductible. So that the taxpayer may conveniently make all allowable interest deductions, he should keep at least two interest expense accounts. One should show the interest paid or accrued 'on indebtedness incurred or continued to purchase or carry obligations or securities (including the First Liberty Loan 3½'s, state, and municipal bonds), the interest on which is entirely exempt' from income and excess-profits tax. Such interest paid or accrued can not be deducted as an expense. The other account, which may be subdivided as required, should include all other interest paid or accrued. Under no circumstances should such interest paid or accrued be set off against interest received on Liberty Bonds, as this would be equivalent to neglecting to deduct the interest paid.

"The interest paid on indebtedness incurred to purchase or carry Liberty Bonds should not be added to their cost, for, as indicated above, such interest can be deducted as an expense in all cases except in the case of the First 3½'s.

"Any loss sustained in the sale of Liberty Bonds of any issue is deductible. It is important, therefore, to keep separate the interest paid on indebtedness to purchase or carry the First 3½'s (which may not be deducted as an expense) and losses sustained upon their sale (which may be deducted)."

As a general proposition, it is desirable to indicate gross interest received, classified as to sources, on the Profit and Loss Account as Other Income. All interest expense, in our opinion, should be shown, properly classified, as a financial expense on the Profit and Loss Account.

PLEASE tell me what "dower" is and how it operates?

Answer:

Dower is the widow's life estate in one third of all the lands, tenements, and hereditaments whereof the husband was seised in fee at any time during the marriage.

Upon the marriage, all estates of inheritance in land which the husband then owns, or which he acquires subsequently during the marriage, are subject to the right of dower. During the marriage, this dower right is called *dower inchoate.* Upon the husband's death, it is called *dower consummate.* If, during the marriage, the husband should convey such estate in land without release by the wife of her dower right, either by joining in the deed of conveyance or by a separate deed, the grantee will take the estate subject to the wife's dower interests. So that upon the death of the husband, the widow would be entitled to her dower estate in the land in possession of the grantee.

Furthermore, the husband is not able to defeat the wife's dower right by his will. If he makes a will in which there is no provision for the wife, she will, nevertheless, be entitled to her dower estate. If he make a will in which there is provision for her, even though it be made in lieu of dower, the widow will be entitled to elect between the benefits conferred by the will and those conferred by the law in the form of dower.

The husband's estate by curtsy, on the other hand, is defined as the husband's life estate in all the lands, tenements, and hereditaments whereof the wife died seised, provided there was issue of the marriage, born alive, capable of inheriting. The wife, therefore, may defeat the husband's curtsy by a conveyance of the property during the marriage, or by will, since the husband has his curtsy only in those lands whereof the wife died seised. Issue of the marriage is necessary for curtsy, but it is not necessary for dower. The dower estate is a life estate in one third of the husband's lands. The estate by curtsy is a life estate in all the lands of which the wife died seised.

THE President of my company has asked me to get an opinion from you on whether or not shipping expense should be charged as selling expense. He has talked with a number of people on this subject, and the result is, he has conflicting ideas as to how it should be charged.

Answer:

The determination as to whether shipping expense is to be considered manufacturing cost or not is largely dependent upon the type of product manufactured. In general, manufacturing costs embrace all costs necessary to bring the product to the state in which it will be marketed. For example, in the case of proprietary articles, such as toothpaste, it is necessary to pack the filled and labeled tubes in a carton. The cartons are usually then packed in a container or box holding a dozen cartons. Since the product is usually marketed by the box of a dozen cartons, all costs up to and including the point of packing the cartons in the containers would be manufacturing cost. Part or all of this packing-work may be done in the factory, or may be done in the shipping department, but in either event, would be manufacturing cost.

Incidental expenditures which have to do with preparing the finished product to withstand the more or less hard usage which it receives while in transit to customers, including cost of boxing, crating, *et cetera,* cost of transportation and the like, are not considered as costs necessary to bring the product to a marketable state, and would, therefore, not be included in the category of manufacturing cost. Freight and similar delivery costs are not considered as shipping expense, but as increase to the cost of the goods, or as deduction from the selling price, dependent on whether the delivery is inward or outward. I presume by the term "selling expense" you mean, in general, expense which is not a manufacturing cost. Shipping expense of the nature indicated—that is, shipping expense other than the portion which can properly be considered as necessary to bring the product to marketable state—would be a selling expense.

The classification "Selling Expense," however, usually embraces only those expenses which are incurred in negotiating sales, such as salesmen's salaries, salesmen's commissions, entertainment of customers, salesmen's traveling expenses, and the like. Shipping costs, assuming they are not manufacturing costs, would more properly be chargeable in a section of the Profit and Loss Statement which might be headed "Administration and General Expenses."

You will see, therefore, that in making the decision as to where to include shipping expense, the situation in respect to a particular organization must be considered on its own merits in the light of the above theory.

DO you know of any books which you could recommend to me for the purpose of gaining a knowledge of the science of money exchange as practiced between the different nations, or is that entirely a matter of economics?

Answer:

The subject of foreign exchange is generally discussed in books on economics. There comes to our mind at this time the following books on Foreign Exchange, which we merely list for your information.

Foreign Exchange—Franklin Escher: Published by Macmillan Company, New York, N. Y.

Foreign Exchange—Robt. L. Owen: Published by The Century Company, New York, N. Y.

Foreign Exchange—Thos. York: Published by Ronald Press Company, New York, N. Y.

WHERE a person is conducting a business as a sole trader should he, as a matter of fact, allow himself a salary which is to be charged to the business as an expense of the business? I presume that it is more or less a matter of opinion, but I have always held the view that withdrawals should be treated as withdrawals instead of salary.

Answer:

The salary of a sole trader should not be charged as an expense of a business which is being operated on a sole-proprietorship basis. The net profit results from his activities in the operation of the business. Such profit should represent the excess of income over costs and expenses paid or accrued to outsiders. If such were not the case, the net profit of a sole trader would fluctuate in accordance with his opinion as to what his services might be worth. It is true, of course, that net profit, under these circumstances, includes compensation for his work as well as for the use of his capital. This fact, however, does not alter the theory.

It's easy and pleasant to recognize and admire the greatness of a man like Marshal Foch. It gives us a thrill. Few of us, though, get any thrills from contemplating the years that he devoted to painstakingly mastering the myriad details of his profession; which probably explains why there are not more Fochs in the world to-day.

STUDENTS OF DAY-SCHOOL DIVISION, PACE INSTITUTE, NEW YORK, INSPECTION TRIP, VISIT ROOF OF HOTEL PENNSYLVANIA, NEW YORK CITY

THE PACE STUDENT

A monthly magazine of service, interpreting the purpose, spirit, and needs of Modern Business

Subscription, $1.50 a Year, Payable in Advance

PACE & PACE, Publishers

30 Church Street *New York City*

Subway Readers

SOMETIMES, it seems that the New York subway trains are regular libraries on wheels. It must be admitted that newspapers constitute the bulk of the reading. But New Yorkers traveling to and from work are not simply newspaper readers. In any subway train you see men and women, utterly oblivious to their surroundings, busily studying text-books and pamphlets. Their time on the trains is not wasted. Not the least common, by any means, are the familiar blue and brown text-lectures so well known to students of the Pace Courses. There is an idea here, possibly, for some folk who habitually use their daily traveling time in reading the newspaper from front-page headline to back-page advertisement.

A Lesson from Roosevelt

ACQUAINTANCES of Theodore Roosevelt never ceased to marvel at his intense vitality, and his seemingly inexhaustible supply of energy. In the heat of a great political campaign, twelve speeches a day, from the rear platform of his special train, were nothing. Between stops, important letters would be dictated, magazine articles prepared, and conferences held. In the evening, this amazing man might be the principal speaker at as many as three mass-meetings, and then, possibly, after another conference, call it a day. Day after day, week after week, this schedule would be maintained, with the Colonel evidently as fresh and enthusiastic at the end of a swing around the circuit as when he started. Small wonder that men marveled.

Yet, close associates of Colonel Roosevelt have told about his wonderful ability to relax—how in an automobile, on the way to the station, he would close his eyes and remain for as much as ten minutes at a time absolutely motionless; how on a train he would frequently sit for a few moments with eyes closed, in utter relaxation.

Here evidently is the secret. He knew that five minutes of absolute relaxation is often worth half a day of so-called rest. At his disposal was so much time; by utilizing it with the utmost care and good judgment, he was able to carry regularly a work schedule far beyond the strength of most men.

We should never tire of learning from great men. Frequently, though, the greatest lessons are not to be drawn from their public acts, but from certain habits of their private life, which, in no small measure, have contributed to their lasting reputation.

Pace Club Athletics

PACE Institute, New York, is now represented in Metropolitan athletic circles. A basketball team has been organized by the Pace Club of New York, and has already participated in several games with school and club teams in and around New York City. Up to the time of writing, all the games played have resulted in victories for the Pace Club team. Perhaps it will not be a long time before athletic teams, representing the student body of Pace Institute, will be competing on an even basis with representatives of the various higher institutions of learning in New York City.

"I do my work every day; I am not a shirker or a clock-watcher." Good, my friend, but the majority of workers are not shirkers. To make yourself stand out from the crowd, to merit advancement, you must have more knowledge than the man next to you.

Pace Club News

THE New York Club's basketball team, since the last issue of The Pace Student, has been successful in winning three games. The team was recently outfitted with uniforms in the club colors—blue and gold. Four additional basketball games are scheduled for next month.

Plans for the midwinter dance which was announced in the last issue of The Pace Student have been completed, and tickets are now on sale. The completeness of the arrangements for the midwinter dance warrants the statement that it will be a great success. The following facts are pertinent:

The date:	February 18, 1922.
The place:	The Waldorf-Astoria, 34 Street and Fifth Avenue, New York City.
Dress:	Informal.
The cost:	$1.50 per person.
Music:	The best.

Several details in connection with the forthcoming annual banquet of the Pace Club of New York must still be arranged before definite announcement can be made. The Committee is hard at work, and promises to make, at an early date, some interesting disclosures concerning the banquet plans.

The Educational Committee has been active during the past month. One hundred dollars appropriated for the Club Library is being used to good advantage, and several technical books are already available at the 30 Church Street clubrooms for the use of club members. It has been suggested that some of the club's friends who have technical books available may be willing to contribute them to the Club Library. Such contributions will be gladly received. The books should be addressed to the Educational Committee, 30 Church Street, New York City.

DWIGHT N. BURNHAM, of the Accounting faculty, Pace Institute, Washington, recently received the C.P.A. degree from the state of North Carolina. Mr. Burnham is a graduate of the Pace Course in Washington, D.C.

JULIUS REISFELD, Class C1419, Pace Institute, New York, died suddenly of pneumonia at his home, 47 Grand Street, Maspeth, L. I., on December 23, 1921. Mr. Reisfeld was ill but a short time and the end came suddenly. He was twenty-two years of age at the time of his death.

Mr. Reisfeld began his studies at Pace Institute, in October, 1920, and always maintained an excellent record as a student. He was a graduate of the Newtown (L. I.) High School in the class of 1916. His many friends at Pace Institute, both in the student body and on the faculty and executive staff, regret his untimely end, and unite in extending their sympathy to the sorrowing members of his family.

LOUIS C. EITZEN, a former student of Pace Institute, New York, announces the formation of the Louis C. Eitzen Organization, with offices at 280 Broadway, New York City. This Organization will act in the capacity of New York City representative for a limited number of manufacturing accounts, and will alsc take charge of foreign sales for a limited number of organizations mauufacturing goods for export.

Mr. Eitzen was for several years vice-president and general sales manager of the Pittsburgh Filter & Engineering Company, of New York City.

WILLIAM G. GUTMUELLER, Class D1514, Pace Institute, New York, was recently appointed assistant general superintendent of the Brooklyn factory of the Doehler Die-Casting Company. The Doehler Die-Casting Company is the world's largest producer of die-castings. Mr. Gutmueller was formerly in the accounting department of the same company.

HARRIE L. WEINER, a former student of Pace Institute, New York, recently accepted, through the Pace Agency for Placements, Inc., a position as senior accountant on the professional staff of S. D. Leidesdorf & Co., accountants, 417 Fifth Avenue, New York City. Mr. Weiner was formerly with W. H. Dennis, C.P.A., New York City.

EUGENE M. DOW, who recently completed the work of Semester E, at Pace Institute, Boston, was recently appointed assistant to the president of the Parker-Young Company, Boston, Mass. This company is one of the leaders in the lumber industry. At the time of his enrolment at Pace Institute, Mr. Dow was an instructor at the Mechanics Art High School, in Boston. He recently resigned his position at this school and engaged in the public practice of Accountancy, until called upon to assume his new position with the Parker-Young Company. Mr. Dow made an exceptional record as a student at Pace Institute.

PHILIP N. MILLER & COMPANY, accountants and auditors, with offices in New York, Chicago, and Philadelphia, announce that they acquired, on January 1, 1922, the accounting practice formerly conducted by the Federal Accounting Corporation. Philip N. Miller, C.P.A., of Philip N. Miller & Company, was graduated from Pace Institute, New York, in 1910.

GEORGE KATTENHORN, a graduate of Pace Institute, New York, has accepted, through the Pace Agency for Placements, Inc., a position as accountant with the U. S. Electro Galvanizing Company, 32 Stockton Street, Brooklyn, N. Y. Mr. Kattenhorn was formerly with Igoe Brothers, New York City.

BRONSON C. SAMMIS, Class E1607, Pace Institute, New York, has accepted, through the Pace Agency for Placements, Inc., a position as assistant bookkeeper with the Reo Motors Company, 1709 Broadway, New York City. Mr. Sammis was formerly with A. H. Whan & Company, New York City.

JOHN A. BROWN, Class C1418, Pace Institute, New York, has accepted, through the Pace Agency for Placements, Inc., a position as bookkeeper with the Retail Research Association, 225 Fifth Avenue, New York City. Mr. Brown was formerly with the Linde Air Products, 30 East 42 Street, New York.

The Referee—the Judge's Aide-de-camp

By Charles T. Clayton, LL. B., Law Faculty, Pace Institute, Washington

THE machinery of our modern legal procedure, keeping pace with our modern business methods, grows steadily more complex. More and more of our time is perforce devoted to efforts to learn the paths we must pass over and the passwords we must repeat before we can gain entrance to the citadel wherein justice has withdrawn. It seems an anomalous development of our present-day efforts to find legal shortcuts, that the more we reform our procedure and the further we progress from the old common-law ways, the muddier and more slippery becomes the highway to understanding. It is not surprising, then, that students sometimes wonder what the function of the referee may be, or that they confuse a reference with an arbitration or with an "agreed case."

The principal service rendered by the referee is in helping the Court in matters of involved and intricate accounting. Both equity and law courts, when confronted by litigants whose claims rest altogether or in part upon such charges and counter-charges, frequently throw up the judicial hands and call for the referee to undertake the unpleasant job of "stating an account." This is, in one aspect, no new thing; for from the organization of our judicial system, when the parties gave consent, such disputes could be, and often were, referred to a "master," or referee.

Early Laws under Dutch Rule

In the early days of Manhattan, when the Dutch ruled in Nieuw Amsterdam, actions involving long accounts could be referred to arbitrators or referees, and during that period, such a reference was a very common mode of trial (*Steck* v *Colorado Fuel & Iron Co.*, 142 N. Y. 236, 25 L.R.A. 67). The English colonists did not relish the method, so different from the trial by jury to which they were accustomed, and when, after the British had taken over the colony, the Duke of York granted the "charter of liberties and privileges" to the citizens of New York, he provided that "all trials shall be by the verdict of twelve men." All actions in common-law courts of the colonies thereafter were triable before juries, except the ancient action of account, which was so slow, costly, and complicated that it was rarely resorted to.

The reference of a pending cause by a court to some person to determine some issue or question, to find the facts and sometimes to report upon the law which seems properly to apply upon the facts, is known as a "reference"; and the person appointed to do the work for the Court is the "referee." He is an agent of the Court and a court officer (*Dundee Mortgage, etc., Co.*, v. *Hughes*, 124 U. S. 157), although not a judicial officer (*Underwood* v. *McDuffie*, 15 Mich. 361); he is not appointed as a court official permanently attached to the Court (*Carson* v. *Smith*, 5 Minn. 78), and nothing can originate before him; nor can anything terminate with or by his decision. In fine, the referee is merely the judge's aide-de-camp; he assists the Court in matters referred to him by the Court; he can not go a hair's breadth beyond his appointment (*Boogher* v. *New York Life etc. Co.*, 103 U. S. 90), and he must discharge all matters committed to him and report fully to the Court upon them (*Van Dyke* v. *Grand Trunk R. Co.*, 84 Vt. 212).

As to Arbitration

An arbitration is a very different thing. Instead of an inquiry to ascertain facts upon which the Court may found its judgment, the whole dispute is withdrawn from the courts and laid before certain private persons agreed upon by all parties, who hear and decide, and whose decision is substituted for the judgment of the Court. By statute, in some states, this decision may be entered in the records of the local court, and then becomes a judgment in force and effect; but it is founded upon agreement of the parties.

The "agreed case" also slightly resembles a reference, but is fundamentally different. Sometimes, parties agree entirely as to what happened, and differ only as to the legal result of what was done. They may then draw up an "agreed statement of facts," which is simply a narrative of what was done, and submit it to the Court to decide what law applies. This is far from a reference, in which the facts are always in dispute or uncertain, and must be investigated before the Court can determine what rule of law to apply.

From early days, one type of reference, known as the "reference by consent," has been recognized. When parties assented, the common-law judges held that nothing in law or public policy forbade them from appointing an officer, usually a lawyer, to examine into the facts and report to the Court with recommendations. Especially, when complicated accounts were involved, this was not only quicker, but more accurate; for the greater freedom of such a hearing and the possibility of examining papers at leisure and preparing statements and analyzing records made the determinations of a "master," as the referee is often called, clearer and surer. Usually, when parties consent to a reference, they file a written agreement (*Boogher* v *New York Life Ins. Co.*, 103 U. S. 90), although this is not required in all jurisdictions (*Newcomb* v *Wood*, 97 U. S. 581).

Following the adoption of the Federal Constitution, which repeated the Duke of York's "Charter of Liberties" in its provision for trial by jury in criminal cases, the Seventh Amendment, providing that "in suits at common law, when the value in controversy shall exceed twenty dollars, the right of trial by jury shall be preserved," was adopted. In course of time, proposals for making references compulsory, at the option of the Courts, were made. Such power would, of course, frequently expedite the work of the Courts; but it is evident that it may run counter to the Seventh Amendment. The Courts, however, held that the constitutional guaranty of trial by jury refers only to cases where the right to trial by jury existed at the time of the adoption of the Constitution (*Grim* v *Norris*, 19 Cal. 140), and thus made it possible to use this method of inquiry in many of the newer and more complex phases of modern business adjustments.

Courts of Equity May Order a Reference

The reader may note that the Seventh Amendment refers only to suits at common law; and it has always been held that the courts of equity may, even without the consent of the parties, order a reference. Occasionally, when legislatures have passed statutes seemingly intended to authorize courts of law to compel references, the Courts have construed such statutes to refer to equity proceedings (79 Am. Dec. 206, notes) and not to law courts, because any attempt to give such power to the law courts would be invalid. So when the power to refer did not exist under common law, a statute to compel a reference by direction of the Court was held unconstitutional (*St. Paul etc. R. Co.* v *Gardner*, 19 Minn. 132); but in New York, where, from early days, references to masters by the common-law courts in matters of intricate accounting had been used, the Court sustained a statute providing for compulsory reference of accounts, notwithstanding the Seventh Amendment (*Steck* v *Colorado Fuel etc. Co.*, 142 N. Y. 236). But although direct authority to courts to compel references can not be sustained, the astute jurists have found something just about as good: for they have held that the legislatures may change the rules of evidence and forms of proceeding at will; and so sustain laws authorizing courts, without consent of parties, to commit any cause to a referee for trial, and, providing that after such trial the cause should, at request of either party, be tried by a jury, and that on such trial the report of the referee should be evidence of all the facts stated therein, subject to be attacked and refuted by either party (*Holmes* v *Hunt*, 122 Mass. 505). In states which have not repeated the provisions of the Seventh Amendment, which restricts the Federal but not the state courts, compulsory reference statutes may be adopted (*Lee* v *Tillotson*, 24 Wend. 337); but most of the states have this provision in their own constitutions.

The reference of matters of accounting to auditors is an old practice. In the reign of Henry III, nearly seven hundred years ago, in disputes involving accounts, the Court used to render an interlocutory judgment—a judgment determining the right to a settlement, but not deciding the case—and send the matter to auditors to state the accounts between the parties, in a few classes of accounts. In that early day, the auditors were obliged to certify any points of dispute to the Court, to be tried by jury; and they could not examine the parties under oath touching their accounts. The Courts of Chancery, which had power to put disputants under oath and make them tell what they knew about their accounts to a court auditor, consequently absorbed the litigation over complex accounts, and to-day, one of the grounds of equitable jurisdiction—a right asserted by a litigant as entitling him to be heard in a court of equity instead of a law court—is that his case is complex and involved, and that there are many items requiring examination, although the items themselves taken separately would have to be litigated in a court of law.

The kind of account which may be made the subject of a reference is one which computes or states debits or credits arising out of personal property bought or sold, services rendered, materials furnished, and the use of property hired and returned (*Pierson* v *Minnehaha County*, 28 South Dak. 534); and where there is no account between the parties, as where there is a claim arising out of some damages, as a mere list of parts repaired as the result of an automobile collision, the account can not be referred. The examination of the account must be directly in question; so when, after a fire, the owner became involved in a dispute over the insurance and sued on the policy, and to establish the amount of damage suffered, offered a great number of bills of sale, inventories, and lengthy accounts, it was held that the accounts were only collaterally in the case to establish the extent of loss, the principal question being whether the insurance company was liable on the policy or not, and hence there could be no reference required.

Selection of a Referee

The referee is selected by the judge, and must be qualified as is a judge, unbiased, indifferent between the parties, and competent to consider and decide the questions intelligently. When a referee is appointed with full power to hear, try, and determine the case, he has the powers of the Court in which the cause is pending, and when so empowered, a referee may even dismiss a cause when the complaint fails to state facts sufficient to make a cause of action, as if the complaint charged that the defendant had given his promissory note which fell due on such a day, but had not paid it, but failed to allege that the note was given for a consideration, or that it was the property of the complainant.

The referee conducts his examination in the same manner that the Court holds trials. The referee can not examine facts outside the jurisdiction of the Court that appointed him. A referee whom the Supreme Court of the District of Columbia named to report upon the facts of a dispute between a citizen of the District and a resident of Alexandria, Virginia, could not go to Alexandria to try the case. Still, if he did go to Alexandria, and the Virginian should appear and state his case, even if in doing so he vigorously objected to the referee's action, and if the witnesses were examined and cross-examined, the testimony would be in the case and could not thereafter be stricken out. The proper course for the Virginian would have been to refuse to appear in the wrong jurisdiction (*Logan* v *Brown,* 20 Okla. 334).

Having investigated, it is the duty of the referee to make a written report to the Court, stating exactly what he did; although this does not mean that the testimony should be reported, in fact, quite the contrary. The referee's job is to sift the testimony, and to tell the Court what he finds to be the facts. The Court does not want to know what the parties contended, but what the truth is. Neither evidence, argument, nor comment has any legitimate place in findings of fact or law (*Glacuis* v *Black,* 50 N. Y. 145). Of course, sometimes testimony is objected to, and then the referee must state the objected testimony and his ruling. The findings of fact of the referee have the same weight in the Court as the decision of a jury when it makes a special verdict—that is, a verdict concerned only with the facts and having no relation to the law. So, if a jury should render its verdict that A, the plaintiff, had traded his automobile to B for a house belonging to B, and that when A and B made the bargain the house had been burned, but neither of them knew it, that would be a "special verdict," upon which the Court would apply the law and adjudge that there was no good trade.

The report of the referee is considered by the Court, which may confirm it, or set it aside, or modify it, as the facts and the law require (*Dundee Mort. & Inv. Co.* v *Hughes,* 124 U. S. 157). But when the reference is by consent of parties under common law, the report of the referee can not be modified as to facts found, but only upon the conclusions of law of the referee. If the Court believes the referee is wrong upon the facts, it must reject the report as a whole and start over again. When there is a compulsory reference, however, the Court may differ with the referee on the facts, and even find upon his report for the opposite party. And if the referee has excluded evidence which should not have been omitted, or made a finding without evidence to support it, what he has done may be swept aside. In that event, the referee may be directed to examine the matter again, or some other referee may be named.

In these days of great and involved corporations, sometimes with dozens of subsidiaries interwoven and interlocked, the work of the referee grows steadily more difficult and technical, and more and more the assistance of the skilled accountant as an aid and adviser to the law officer is being requisitioned.

"Every wrong has its remedy," has for centuries been the boast of the law; "every complexity brings its solution," seems the boast of constructive law administration.

New York State C.P.A. Requirements

FOR the benefit of the many readers of this magazine who are interested in the requirements for the C.P.A. degree in New York State, we are glad to quote below from the latest handbook issued by the University of the State of New York. This handbook also contains a digest of the C.P.A. laws in other states.

The requirements for New York State follow:

The certificate of certified public accountant may be issued to a candidate who—

(a) Pays a fee of $25.

(b) Submits evidence that he is more than twenty-one years of age and of good moral character, and that he resides in or has a place for the regular transaction of business in the state of New York.

(c) Meets the preliminary and professional requirements and passes the examination.

A citizen of the United States, residing in or having a place for the regular transaction of business in this state, who has personally practised for three years as a certified public accountant in another state under a license or certificate earned by passing the regular written certified public accountant examination in that state, may, upon evidence that such written examination of the other state was of not lower standard than that required of applicants in this state and upon recommendation of the Board of Certified Public Accountant Examiners, receive from the Board of Regents a certificate as a certified public accountant without examination, provided the state from which the applicant presents a license shall have filed an agreement with the Board of Regents to, in similar manner, indorse licenses issued in this state, and provided the applicant has the academic education specified in section 426 of the Regents' Rules. The fee for the indorsement of the certificate shall be $25, the same as that for the issuance of a certificate in this state.

Preliminary Requirement

The certified public accountant qualifying certificate, official evidence of the completion of the preliminary requirement, may be secured in any one of the following ways:

1. By presenting evidence, upon forms furnished by the Department, of the successful completion of four years' work in an approved secondary school.

2. By earning an academic or college entrance diploma upon examinations in the schools.

3. By presenting evidence of the successful completion of one full year's work in an approved college or university.

4. By presenting evidence of the successful

completion of work in another state or in a foreign country equivalent to the completion of a four-year course in an approved New York secondary school.

5. By presenting from a professional school evidence of the completion of work recognized as the equivalent of one or more years of work in an approved secondary school, together with sufficient additional credits to make the full equivalent of a four-year course in an approved secondary school. Under this head, allowance is made for study completed in registered schools of theology, law, medicine, dentistry, pharmacy, and veterinary medicine.

6. By earning within six successive years seventy-two academic counts in Regents' Examinations, with a rating of at least 75 per cent. in each subject.

7. By passing Regents' Examinations to supplement one or more successful years of work in an approved secondary school. Eighteen counts are allotted for each year of such work. All candidates who present evidence of the partial completion of a secondary school course will be advised in what subjects it will be necessary for them to pass examinations to complete the requirements for the certified public accountant qualifying certificate. So far as is practicable, the additional examinations necessary will be based upon the requirements for the seventy-two-count certificate, as indicated in paragraph six.

Special Examinations in English

All applicants for a certified public accountant qualifying certificate upon credits from foreign countries other than those in which English is the language of the people, all or any part of which equivalent certificates are earned or issued in said foreign countries, must pass a special examination in English, upon which no counts are granted.

Professional Requirement

A candidate must present satisfactory evidence of five years' satisfactory experience in the practice of Accountancy, at least three of which must have been completed prior to his admission to the written certified public accountant examination, and at least two of the five years' experience shall have been in the employ of a certified public accountant in active practice, in no less grade than that of a junior accountant or the equivalent thereof. All applications for admission to an examination must be filed with the Examinations and Inspections Division of the Department at least two weeks prior to the date of the examination, in order that the experience claimed may be verified.

The Examination

The examinations are held twice a year, at Albany, Buffalo, New York, and Syracuse, in five sessions of three hours each, as follows:

DATES

1922	*1923*
Jan. 23–25	Jan. 29–31
June 26–28	June 25–27
1924	*1925*
Jan. 28–30	Jan. 26–28
June 23–25	June 22–24

The University of the State of New York

DAILY PROGRAM

	Morning—9:15	Afternoon—1:15
Mon.:	Theory of accounts	Practical accounting (part 1)
Tues.:	Practical acctg. (part 2)	Auditing
Wed.:	Commercial law	

The passing mark in each subject is 75 per cent. A candidate who fails in one subject only may take a subsequent examination in that subject. A candidate who fails in more than one subject must take all subjects again.

WILLIAM McCLUSKEY, Class E1608, Pace Institute, Newark, recently obtained, through the Pace Agency for Placements, Inc., a position with the N. Y. Butchers Dressed Meat Company, 40th Street and Eleventh Avenue, New York City. He was formerly an employee of Butler Brothers.

ERNEST HOFFMAN, a student at Pace Institute, New York, has accepted a position as junior accountant with Harvey, Fuller & Company, 82 Beaver Street, New York City, through the Pace Agency for Placements, Inc. He was formerly with the Pier Machine Works.

N. J. YOUNG, a former student at Pace Institute, is now assistant manager of the Bonus Commission Department of Henry L. Doherty & Company, 60 Wall Street, New York City.

NATHAN H. LEMOWITZ, C.P.A., a former student of Pace Institute, New York, announces the removal of his office to 2 Rector Street, New York City.

BRADLEY A. DUSENBURY, who was graduated from Pace Institute, New York, in June, 1919, was recently awarded his C. P. A. degree by the New York State Board of Examiners. He has opened offices for the professional practice of Accountancy at 15 Park Row, New York City.

Mr. Dusenbury was formerly controller of the Mallory Industries, Inc., Port Chester, N. Y. He made a notable record as a student at Pace Institute, receiving the highest rating of all the students who passed the final examinations in June, 1919.

WILLIAM L. DRAKE, Class B1326, Pace Institute, New York, has accepted a position in the accounting department of the American Telegraph & Telephone Company, 195 Broadway, New York City. Mr. Drake was formerly employed by the General Electric Company.

HENRY KNUST, a graduate of the Pace Courses, recently passed the Connecticut C.P.A. examinations.

ISAAC STERN, Class D1513, Pace Institute, Newark, has been appointed Building and Loan Association examiner in the state of New Jersey. The examination, which he took on November 1, 1921, was given under the auspices of the Department of Banking and Insurance of the State of New Jersey. Mr. Stern stood second in the list of twenty-seven who took the examination.

WILLIAM H. CHAPMAN, Class A1130, Pace Institute, Newark, has accepted, through the Pace Agency for Placements, Inc., a position on the bookkeeping staff of the Fleischman Construction Company, 531 Seventh Avenue, New York City. Mr. Chapman was formerly employed by the Tide Water Oil Company, New York City.

WILLIAM T. KING, Class C428, has accepted a position as bookkeeper with the *Christian Herald*, Fourth Avenue and Eighth Street, New York City. Mr. King was formerly employed by Schoonmaker Brothers & Company, 225 Fifth Avenue, New York City.

Analysis of Financial Statements for Credit Purposes

By Homer S. Pace, C.P.A.

RECENTLY, Homer S. Pace, C.P.A., addressed a group of business executives at Pace Institute, New York, on the "Analysis of Financial Statements for Credit Purposes." The following quotation from the talk will be of interest to many readers:

A president of a large corporation, well versed in the intricacies of management and financial analysis, once asked me if I could give his son a short and intensive course of five or six weeks that would enable him to analyze financial statements. He said that he did not care to have him acquire an understanding of the fundamentals of double entry and of the principles that are needed by accountants and bookkeepers—that he merely wanted him to acquire such an incidental knowledge as would enable him to obtain sound conclusions from statements of various kinds. He said that he could do these things, although he had never taken an intensive course of study.

My reply, as you can well imagine, was to the effect that his request could not be met. He was asking, not for an incident of accounting, but for the exercise of the very highest of accounting abilities—the ability to obtain an understanding of basic facts from an inspection of statements. When he referred to his own ability, I was quite frank to admit that he was probably correct, and that possibly his son would have a similar ability after he had had forty years of business experience similar to that through which his dad had passed. I made the point that it was entirely hopeless to attempt to compress into five weeks' instruction a knowledge that a man would acquire in forty years of experience.

When, therefore, we are considering the analysis of financial statements for credit purposes, let us start with a full appreciation of the difficulties involved. Let us proceed upon the theory that the statements set forth facts as to value; that many of the facts are arrived at by offsets or summarizations, so that net conditions are reflected rather than aggregate states; that accounting principles of valuation underlie the determination of the amounts in every classification; and that an enormous amount of amplifying detail must be connoted from the comparatively few classifications and amounts that are under review.

With this conception in mind, let us consider the factors upon which credit depends. What things must you determine in respect to the person or individual who asks you to turn over values on the promise of future repayment before you approve the application? Two things you must determine: First, you must determine, beyond a reasonable doubt, that the applicant for credit will have *ability* to meet his obligation; and, further, you must determine, beyond a reasonable doubt, that he has the *intent* to meet his obligation.

The matter of the probable *ability* to repay, we determine, generally speaking, from an analysis of financial statements; and the matter of *intent*, we determine, generally speaking, from personal contacts with the applicant, from a knowledge of his reputation and character, and by a certain intuitive sense which a credit man develops as the result of his experience. The determination of intent is related only indirectly to the analysis of financial statements, and raises psychologic and other factors that are beyond the range of our present discussion.

Our principal objective, therefore, in analyzing financial statements is to determine, in respect to the applicant, his *ability* to pay. We must take into account the fact that the payment is not to be made at the time the credit is given, but at some future time. We must consider, further, that the payment will be made out of a specific asset, which may not yet be in hand, but which may later be acquired. We are thus led to the conclusion that we must estimate a probable future state, working from the facts of a present status or past results that are presented in the statements.

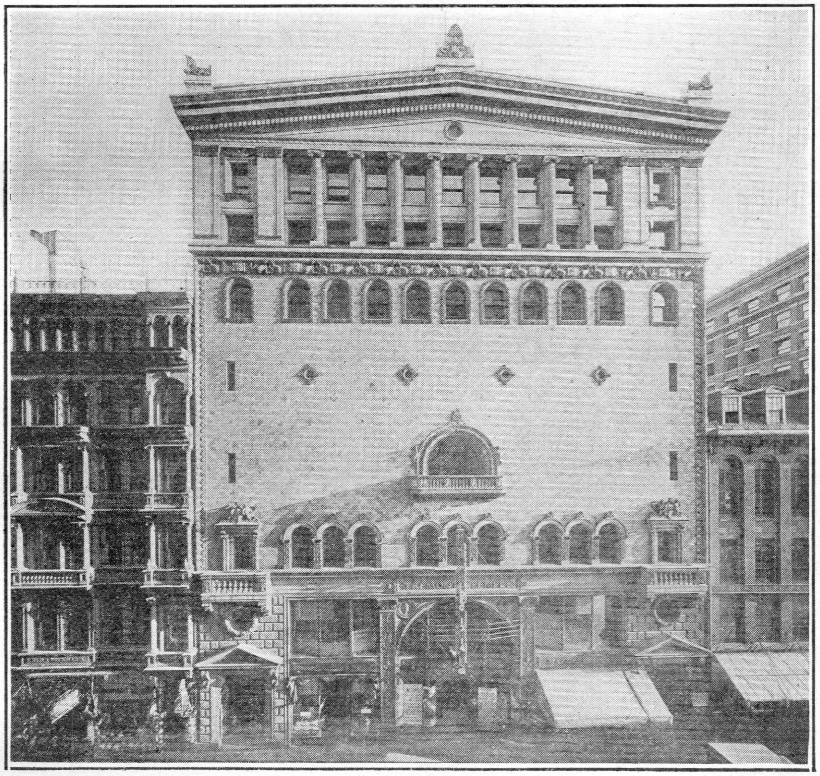
Statements of only two types will ever be presented for credit purposes—the balance sheet and the profit and loss account. Any specific accounting statement will be either a balance sheet, or some division of a balance sheet; or a profit and loss account, or some division of a profit and loss account. The function of a balance sheet is to present the status of a business as to the possession of assets and as to liabilities at a certain moment of time. The function of the profit and loss account, on the other hand, is to disclose the effect of business transactions for some given period of time. Thus, the balance sheet, as at the opening of business on January 1st of a particular year, shows the financial status, stated by classifications of assets and liabilities, at that time; and the balance sheet at the close of business December 31st shows a similar state of affairs as at the latter date. The profit and loss account for the year discloses the effect of the transactions that take place during the year, and the net profit and loss result; and, taking into account the withdrawal and contribution of capital, the profit and loss account reconciles the two positions.

We therefore look to the balance sheet for the value status of a business, and we look to the profit and loss account for the value tendency. We study and analyze both the value status and the value tendency, in order to reach a reasonable conclusion as to the *ability* of the business to perform a specific financial act at a future time, namely, the payment of the obligation that will be created if the credit is given.

Pace Institute, Boston, Mass.

PACE INSTITUTE, Boston, is particularly fortunate in the school facilities which it enjoys. The classrooms and executive offices of the Institute occupy the greater part of the seventh floor of Tremont Temple, illustrated below, one of the best-known buildings in Boston. A reception room and the general assembly hall are also located on the seventh floor. Additional classrooms are maintained on the sixth and fifth floors.

Tremont Temple is in the heart of the business district of Boston, and is, therefore, particularly convenient for students of Pace Institute. It is but a short walk from Tremont Temple to the various suburban transportation lines—subway, elevated, steam, and electric roads. The Institute conducts both day and evening classes, and draws students, not merely from Boston, but from the surrounding cities and towns as well. Ever since it was opened, ten years ago, Pace Institute, Boston, has maintained its quarters in Tremont Temple, adding to them, from time to time, as increased enrolment has rendered it necessary.



TREMONT TEMPLE, BOSTON, MASS.

Annual Banquet, Pace Club of Boston

THE annual banquet of the Pace Club of Boston was held on Saturday evening, December 17th, at the Copley-Plaza Hotel, Boston. The Banquet Committee, to whom a large measure of credit should be given for the enjoyable affair, was composed of the following students and graduates, members of the Pace Club of Boston: Paul F. Haroth, chairman, Ellen G. Kevlin, secretary, Helena J. O'Malley, treasurer, Dudley B. Ellis, James H. Kenney, David F. Supple, Henry Bowen, Hugh Smith, Harold L. Simonton, Arthur V. Garland, and William R. Eastwood.

Prior to the dinner, an informal reception was held. Students and graduates renewed old acquaintances and formed new ones. The banquet itself was served in true Copley-Plaza style. During the course of the dinner, the students and guests joined in community singing and were entertained by vocal solos and recitations. Excellent music was provided by a special orchestra engaged for the occasion.

Amos L. Taylor, A.B., LL.B., of the faculty of Pace Institute, Boston, presided as toast-master in his usual able manner, and introduced the following speakers: Waldron H. Rand, C.P.A., ex-president of the American Institute; Clinton H. Scoville, C.P.A., Herbert F. French, C.P.A., and Homer S. Pace, C.P.A. (N. Y.). Following the speeches, dancing was enjoyed until a late hour. The general feeling of those at the banquet is reflected in a quotation from a letter sent to the Pace Club of Boston by one of the guests of the evening, in which he says, "It was a revelation to me to see so many there."

EMIL P. TUREK, Pace Institute, New York, recently accepted a position in the accounting department of Watts, Ridley & Company, 44 Leonard Street, New York City.

MAX FREDERICH, a graduate of Pace Institute, Extension Division, has become a partner in the firm of West, Flint & Company, accountants and auditors, 40 Rector Street, New York.

JAMES C. HAYES, Class E503, Pace Institute, Boston, has recently been promoted to the position of assistant to the resident manager of the National Analine Chemical Co., Boston, Massachusetts.

THEODORE A. CRANE, a graduate of the Pace Standardized Courses, in Newark, N. J., was recently elected secretary and treasurer of the New Jersey Society of Certified Public Accountants.

HOWARD HOFFMAN, Pace Institute, Extension Division, has accepted a position as accountant with Frederick Vietor, Madison Avenue and 25 Street, New York City. Mr. Hoffman was formerly with the Lexington Motors Company.

JAMES NELSON, Class D1514, Pace Institute, New York, recently accepted, through the Pace Agency for Placements, Inc., a position as junior accountant on the professional staff of George H. Kingsley, 26 Cortlandt Street, New York City.

DOUGLAS BEVINS, a student in Pace Institute, Extension Division, has taken a position in the cost department of the American Chicle Company, 19 West 44 Street, New York City. Mr. Bevins was formerly with the New Jersey Zinc Company, New York City.

MARSHALL C. ROOP, a graduate of Baltimore Pace Institute, recently passed the C.P.A. examinations in the state of Maryland. He has accepted a position on the professional staff of Charles H. Schnepfe, Jr., & Company, certified public accountants, (Md.) Baltimore.

HERBERT B. BIELITZ, a student in Pace Institute, Extension Division, recently resigned his position as private secretary to Charles Stewart Butler and, on December 1st, assumed the duties of auditor for the firm of Day, Meyer, Murray & Young, 305 East 61 Street, New York City.

GILBERT CANARIO, Class A1131, Pace Institute, New York, recently accepted, through the Pace Agency for Placements, Inc., a position as bookkeeper with Ricordi & Company, 14 East 43 Street, New York City. Mr. Canario was formerly with the Audit Company of Hawaii, Honolulu.